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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,763	09/25/2008	Roland Ahlers	21/1431US	6218
22822 7590 05/24/2010 LEWIS, RICE & FINGERSH, LC ATTN: BOX IP DEPT. 600 Washington Ave. Suite 2500 ST LOUIS, MO 63101				
EXAMINER TAKAOKA, DEAN O				
ART UNIT 2817		PAPER NUMBER		
NOTIFICATION DATE 05/24/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/595,763

**Applicant(s)**

AHLERS, ROLAND

**Examiner**

DEAN O. TAKAOKA

**Art Unit**

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 15-23 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is no period at the end of the claims thus it cannot be determined if this was a typographical error or additional limitations were meant to be included. Accordingly, claims 17 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite. In so far as can be understood and in the interest of advancing the prosecution, the claims are examined below as presented.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9, 10, 12, 13 and 15 – 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Jarger et al. (US 3,243,704).

9. Jarger shows a directional coupler comprising: a first connection to input or output a wave and a first decoupling connection to decouple a coupled wave, both of said first connection and said first decoupling connection (via 11, 13) being connected via a first

network (incident RF signal detection network – col. 3, lns 58-64) to an inner conductor (11) and an outer conductor (7a) of a coaxial line at a first connection face; and a second connection to input or output said input or output wave from said first connection and a second decoupling connection (via 12, 19) to decouple a coupled wave, both of said second connection and said second decoupling connection connected via a second network (reflected RF signal detection network – col. 3, lns 58-64) to said inner conductor (12) and to said outer conductor (7b) of said coaxial line at a second connection face; wherein, said coaxial line is bent in such a manner that said first connection face and said second connection face are aligned generally parallel to a generally planar printed circuit board (24)(Fig. 2); said circuit board including at least one of said first connection, said second connection, said first decoupling connection, or second decoupling connection (Markush group comprising first and second decoupling network connections – col. 3, ln 70).

The term 'printed' is not given patentable weight by the Examiner where the term is drawn to a process wherein a product claim, only the final product is patentable. Regarding the "product-by-process" claims, it should be noted that a "product-by-process" claim is directed to the product per se, no matter how such a product was made. It has been well established by the Courts that it is the patentability of the final product per se which must be determined in a "product-by-process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product-by-process" form or not.

See *In re Hirao*, 190 USPQ 15 at 17 (footnote 3); *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324, *In re Avery*, 186 USPQ 161; *In re Marosi et al.*, 218 USPQ 289; and in particular *In re Thorpe*, 227 USPQ 964. It should be noted that the applicant has the burden of proof in such cases, as the above case law makes clear.

10. The directional coupler of claim 9 wherein, said first network and said second network are resistance networks (including resistors 32, 27).

12. The directional coupler of claim 10 wherein, said outer conductor of said coaxial line is led to earth potential at said first connection face via a third network (8, 34) and at said second connection face by a fourth network (8, 29)(col. 2, lns 56-72).

13. The directional coupler of claim 12 wherein, said third network and said fourth network are resistance networks (resistor 8).

15. The directional coupler of claim 13 wherein both of said third and said fourth networks are low impedance networks (where term low is broad where the range is undefined by the claim, thus where the third and fourth networks comprise 'low' impedance).

16. The directional coupler of claim 13 wherein said coaxial line is bent in a semicircular shape (Fig. 2).

17. The directional coupler of claim 16 wherein: said coaxial line is mechanically and electrically connected to said circuit board at said first connection face via a first connection conductor connected to said inner conductor and via first conically disposed resistors connected to said outer conductor, said first connection conductor and said

first conically disposed resistors being a part of said first network or said third network; and said coaxial line is mechanically and electrically connected to said circuit board at said second connection face via a second connection conductor connected to said inner conductor and via second conically disposed resistors connected to said outer conductor, said second connection conductor and said second conically disposed resistors being a part of said second network or said fourth network (in so far as can be understood, discussed in the reasons for rejection of claim 9 above).

18. The directional coupler of claim 13 wherein said coaxial line is bent in a U-shape (Fig. 2).

19. The directional coupler of claim 18 wherein: said coaxial line is mechanically and electrically connected to said circuit board at said first connection face via a first connection conductor' connected to said inner conductor and via first conically disposed resistors connected to said outer conductor, said first connection conductor and said first conically disposed resistors being a part of said first network or said third network; and said coaxial line is mechanically and electrically connected to said circuit board at said second connection face via a second connection conductor connected to said inner conductor and via second conically disposed resistors connected to said outer conductor, said second connection conductor and said second conically disposed resistors being a part of said second network or said fourth network (in so far as can be understood, discussed in the reasons for rejection of claim 9 above).

20. The directional coupler of claim 9 wherein said coaxial line is bent in a semicircular shape (Fig. 2).

21. The directional coupler of claim 9 wherein said coaxial line is bent in a U- shape (Fig. 2).

22. The directional coupler of claim 9 further comprising at least one ferrite ring made of a ferrite material which surrounds said coaxial line (9, 10 – col. 2, ln 61 and col. 3, ln 4).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarger et al.

Jarger teaches the directional coupler including first and second resistance networks (discussed in the reasons for rejection above) but is silent where the resistance networks are components soldered onto said circuit board in SMD technology.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the generic network elements with SMD components. Such a modification would have been obvious where surface mount components are well-known in the art and would have comprised a mere substitution of well-known art-recognized components thus suggesting the obviousness of the modification.

The term 'soldered' is not given patentable weight by the Examiner where the term is drawn to a process wherein a product claim, only the final product is patentable. Regarding the "product-by-process" claims, it should be noted that a "product-by-process" claim is directed to the product per se, no matter how such a product was made. It has been well established by the Courts that it is the patentability of the final product per se which must be determined in a "product-by-process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product-by-process" form or not.

See *In re Hira*, 190 USPQ 15 at 17 (footnote 3); *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessman*, 180 USPQ 324, *In re Avery*, 186 USPQ 161; *In re Marosi et al.*, 218 USPQ 289; and in particular *In re Thorpe*, 227 USPQ 964. It should be noted that the applicant has the burden of proof in such cases, as the above case law makes clear.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jarger et al. in view of Fojas (US 7,095,294).

Jarger teaches the directional coupler including a ferrite ring encasing the first or second network (discussed in the reasons for rejection above) but does not show where the at least one ferrite ring comprises a plurality of aligned ferrite rings encasing said coaxial line.



Fojas shows a similar or most nearly identical directional coupler including at least one ferrite ring comprising a plurality of aligned ferrite rings encasing said coaxial line.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the ferrite ring disclosed by Jarger with the plural aligned ferrite rings disclosed by Fojas. Such a modification would have been obvious where the substitution of one ring for plural rings is well-known in the art and obvious where Fojas teaches higher directivity increasing measurement accuracy for incident and reflected wave s (Fojas – col. 1, Ins 10-16) thus suggesting the obviousness of the modification.

#### ***Allowable Subject Matter***

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEAN O. TAKAOKA whose telephone number is (571)272-1772. The examiner can normally be reached on 9:00a - 5:30p Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dean O Takaoka/  
Primary Examiner, Art Unit 2817